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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/081,801	02/22/2002	Joel R. Williams	DISKSYS	1755
48309 7590 07/17/2007 ADVANTIA LAW GROUP 9035 SOUTH 1300 EAST SUITE 200 SANDY, UT 84094			EXAMINER SHAW, PELING ANDY	
			ART UNIT 2144	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/081,801	Applicant(s) WILLIAMS, JOEL R.	
	Examiner Peling A. Shaw	Art Unit 2144	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 April 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,8,9,11,12 and 15-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,8,9,11,12 and 15-29 is/are rejected.
- 7) ☒ Claim(s) 1 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 04/26/2007 has been entered. Claims 1, 8, 11-12, and 15-20 are amended. Claims 2-7, 10 and 13-14 are cancelled. Claims 21-29 are new. Claims 1, 8-9, 11-12 and 15-29 are currently pending.
2. Amendment received on 06/30/2006 was entered into record. Claims 1, 8 and 15 were amended.
3. Amendment received on 12/22/2005 was entered. Claims 1, 8 and 15 were amended.

Priority

4. This application has no priority claim made. The filing date is 02/22/2002.

Specification

5. Applicant has amended the specification. Examiner has reviewed the amended specification changes. Examiner has found that many amended changes are either unnecessary or redundant. Examiner has also found that many amended changes are potential introducing new matters. To reduce the burden of administrating and considering redundant specification changes, examiner rejects all redundant specification changes. Examiner is also required to reject all specification changes that may introduce new subject matters.

- a. In lines 6-7 on page 2 of current amendment, the amended specification change of adding “CPU subsystem housing 150” instead of original “sheet metal housing” is not acceptable. There is no reference of such a term used in the original specification or claim language. Thus the amended change in line 7 on page 2 of current amendment, i.e. “The CPU subsystem housing ...” is also rejected.
- b. In lines 9-11 on page 2 of current amendment, the amended specification change of adding “The ears 153, or elongated tab 153 sliding over the disk drive 100 and aligning with the corresponding holes 103 may comprise a disk drive to CPU securing system.” There is not particular reference of using the term of “elongated tab” or “securing system” in the original specification or claim language. This amended specification change is not acceptable.
- c. In line 13 on page 2 of current amendment, the amended specification change of adding “through application of a lateral force” is not acceptable due lacking of preference using the term of “lateral force”.
- d. The specification of a reference to Figure 1 in the bottom paragraph of page 6, i.e. “FIG1 1” should be corrected to “Fig. 1”.

Claim objections

6. Claim 1 is objected to because of the following informalities:
 - a. Applicant has amended claim 1 with the limitation of “consisting essentially of” instead of “comprising”. Examiner does not know the different of “consisting essentially of” vs. “consisting of”. Examiner would like to see applicant changing the

claim language of “consisting essentially of” to a more commonly used claim language of “consisting of”.

- b. Applicant has amended claim 1 to indicate the deletion of “power” in line 4.

Applicant does not see there is such a word in the previous claim 1 language.

- c. Applicant has amended claim 1 to indicate the deletion of “including means for ...” in line 11. There should be an indication of deleting “; and” in front the deletion of “including means for ...”

Appropriate correction is required.

Claim Rejections - 35 USC § 112, first paragraph

7. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 1 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

- a. Applicant has amended claim 1 language with the limitation of “... mountable in a standard single disk drive enclosure of a computer housing ...”, “..., the CPU subsystem being mechanically coupled to the disk drive and selectably removable from the disk drive through application of a lateral force, and wherein the CPU subsystem is not coupled to the disk drive via a base support member ...” in lines 8-11, “... wherein the system does not include an internal power supply; ...” in line 12

and "...wherein said CPU subsystem housing is sized and configured such that when said CPU system housing is secured to said disk drive, said disk drive and said CPU subsystem housing can be secured in a standard single disk drive enclosure of a computer housing" in lines 17-20 that are not found the in the original specification and claim language. It thus brings new subject to the application and is not allowed. Claim 1 is rejected under 35 U.S.C. § 112, first paragraph. For the purpose of applying art, claim 1 is considered with the amended claim language changes.

Appropriate correction is required.

8. Claims 8-9, 11-12 and 27 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

- a. Applicant has amended the claim 8 language with the limitation of "... server including a standard disk drive ...", "...; mating said first electrical connector to said second electrical connector mechanically coupling said CPU subsystem to said disk drive via a disk drive to CPU fastening mechanism, wherein the mechanically coupling does not include a base support member; ..." and "...in a first standard single disk drive enclosure of a computer housing" that are not found the in the original specification and claim language. It thus brings new subject to the application and is not allowed. Claim 8 and its dependent claims 9, 11-12 and 27 are rejected

under 35 U.S.C. § 112, first paragraph. For the purpose of applying art, claim 8 is considered with the amended claim language changes.

- b. Applicant has amended the claims 11-12 language with the limitation of “...the first and second single standard disk drive enclosure of a computer housing” that is not found the in the original specification and claim language. It thus brings new subject to the application and is not allowed. Claims 11-12 are rejected under 35 U.S.C. § 112, first paragraph. For the purpose of applying art, claims 11-12 are considered with the amended claim language changes.
- c. New claim 27 recites the limitation of “... selectably coupling the CPU subsystem to the disk drive through application of a lateral force” that is not found the in the original specification and claim language. It thus brings new subject to the application and is not allowed. Claim 27 is rejected under 35 U.S.C. § 112, first paragraph. For the purpose of applying art, claim 27 is considered with the limitation.

Appropriate correction is required.

- 9. Claims 15-20 and 28-29 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

- a. Claim 15 recites the limitation of “...mountable in a standard single disk drive enclosure of a computer housing ...” in lines 2-3, “...electrical connectors disposed in said CPU subsystem housing, ...” in lines 7-8 and “...a fastening system

mechanically coupling the CPU subsystem housing to the disk drive, wherein the fastening system is selectably removable through application of a lateral force; ...

that are not found the in the original specification and claim language. It thus brings new subject to the application and is not allowed. Claim 15, its dependent claims 16-20 and 28-29 are rejected under 35 U.S.C. § 112, first paragraph. For the purpose of applying art, claim 8 is considered with the amended claim language changes.

- b. New claims 28-29 recite the limitations of “ ... the fastening system does not include a base support member configured to couple together and support the CPU subsystem and disk drive” and “...wherein the disk drive does not include an internal power supply” that are not found the in the original specification and claim language. It thus brings new subject to the application and is not allowed. Claims 28-29 are rejected under 35 U.S.C. § 112, first paragraph. For the purpose of applying art, claims 28-29 are considered with the limitations.

Appropriate correction is required.

10. Claims 21-26 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

- a. New claim 21 recites the limitations of “...mountable in a standard single disk drive enclosure of a computer housing ...” in lines 2-3, “...said CPU subsystem housing conforming approximately to the height and width of said disk drive ...” in lines 4-5,

“... wherein the system does not include an internal power supply; ...” in line 8 and “... said CPU subsystem housing is sized and configured such that when said CPU subsystem housing is secured to said disk drive, said disk drive and said CPU subsystem housing can be secured in a standard single disk drive enclosure of a computer housing” in lines 12-15 that are not found the in the original specification and claim language. It thus brings new subject to the application and is not allowed. Claim 21, its dependent claims 22-26 are rejected under 35 U.S.C. § 112, first paragraph. For the purpose of applying art, claim 21 is considered with the amended claim language changes.

- b. New claims 22-23 recite the limitations of “...wherein the CPU subsystem is selectably removable from the disk drive through application of a lateral force” and “...wherein the CPU subsystem is not coupled to the disk drive via a base support member” that are not found the in the original specification and claim language. It thus brings new subject to the application and is not allowed. Claims 22-23 are rejected under 35 U.S.C. § 112, first paragraph. For the purpose of applying art, claims 22-23 are considered with the limitations.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 8-9, 11-12, 15-16, 18, 21-25 and 27-29 are rejected under 35 U.S.C. 102(b) as being anticipated by Ayd et al. (US 6025989 A), hereinafter referred as Ayd.

- a. Regarding claim 1, Ayd disclosed a system for providing a server (column 1, lines 26-32: rack-mounted computer as server unit) consisting essentially of: a disk drive (column 3, lines 1-3: disk drive) mountable in a single disk drive enclosure of a computer housing having at least one electrical connector disposed (column 2, line 63- column 3, line 3: removable chassis) and a CPU subsystem (column 2, line 63- column 3, line 3: logic chassis) having a housing and at least one electrical connector disposed therein and mated to said disk drive electrical connector said CPU subsystem housing (Fig. 1, column 2, line 63- column 3, line 3: power supply in removable chassis; column 3, lines 18-21: mating connectors; column 3, lines 50-52: power cable to logic chassis) conforming approximately to the height and width of said disk drive, the CPU subsystem being mechanically coupled to the disk drive and selectably removable from the disk drive through application of a lateral force, and wherein the CPU subsystem is not coupled to the disk drive via a base support member (Fig. 1, claim 1 and column 3, lines 7-8 and 17-24: side piece 34 of the forward extension 30 is the ear, draws and locks the chassis together); wherein the system does not include an internal power supply (Fig. 3 and 5-6; column 3, lines 49-52: power supply cable; column 4, lines 49-52: bulk power assembly converts AC to DC and supplies to the power supply in each removable chassis; applicant's Fig. 2 depicts a power regulator internal to the CPU subsystem and drawn external power from power socket/plug); wherein, when power is supplied to said CPU subsystems

said CPU subsystem supplies power and/or data to said disk drive through said electrical connectors without external wires or cables (Fig. 1, column 2, line 63-column 3, line 3: power supply in removable chassis; column 3, lines 18-21: mating connectors; column 3, lines 50-52: power cable to logic chassis); and wherein said CPU subsystem housing is sized and configured such that when said CPU system housing is secured to said disk drive, said disk drive and said CPU subsystem housing can be secured in a single disk drive enclosure of a computer housing (Fig. 1; column 3, lines 17-24: draws and locks the chassis together over slot 30).

- b. Claims 8 and 27 are of the same scope as claim 1. These are rejected for the same reasons as for claim 1.
- c. Regarding claim 9, Ayd disclosed a method of claim 8 and further comprising the step of connecting the disk data bus connection to at least one additional disk drive from said CPU subsystem (column 3, lines 1-3: a pair of disk drives).
- d. Regarding claim 11, Ayd disclosed the method of claim 8 further comprising providing a server farm system wherein at least two of the servers are contained in the first and second standard disk drive enclosure of a computer housing (column 3, lines 1-3: a removable chassis including a pair of disk drives).
- e. Regarding claim 12, Ayd disclosed the method of claim 9 further comprising providing a server farm system including at least two of the servers installed in the first and second standard disk drive enclosure of a computer housing (column 3, lines 1-3: a removable chassis including a pair of disk drives).

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f. Claims 15-16, 18 and 28-29 are of the same scope as claims 8-9, 11 and 27. These are rejected for the same reasons as for claims 8-9, 11 and 27.

g. Claims 21-25 are of the same scope as claims 15-16, 18 and 28-29. These are rejected for the same reasons as for claims 15-16, 18 and 28-29.

Ayd disclosed all limitations of claims 1, 8-9, 11-12, 15-16, 18, 21-25 and 27-29. Claims 1, 8-9, 11-12, 15-16, 18, 21-25 and 27-29 are rejected under 35 U.S.C. 102(b).

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ayd, further in view of Savage ("Disk Arrays Challenge DASD" Savage, J.A.), hereinafter referred as Savage.

- a. Ayd shows claims 15-16 as above. Ayd does not show (claim 17) wherein the plurality of disk drives are arranged and to operate as a RAID disk array. However Ayd does show (Fig. 4; column 3, lines 1-3) having multiple disk drives in a single rack.
- b. Savage shows (claim 17) wherein the plurality of disk drives are arranged and to operate as a RAID disk array (paragraph 4: a typical RAID) in an analogous art for the purpose of direct access storage device.

- c. It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to modify Ayd's functions of rack mounted multiprocessor computer with Savage's functions of using RAID for direct storage access.
- d. The modification would have been obvious because one of ordinary skill in the art would have been motivated to grouping a multiple sever nodes per Ayd (Fig. 1 and 4; column 1, lines 26-32; column 1, line 63-column 2, line 25)'s teaching used as RAID per Savage (paragraph 4)'s teaching.

Together Ayd and Savage disclosed all limitations of claim 17. Claim 17 is rejected under 35 U.S.C. 103(a).

13. Claims 19-20 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ayd, further in view of Mazingo ("Internet server Load balancing" Mazingo, Sue), hereinafter referred as Mazingo.

- a. Ayd shows claims 15 and 21 as above. Ayd does not show (claim 19) wherein at lease one redundant server provides redundancy for at least one primary server. However Ayd does show (Fig. 3-4; column 3, lines 45-60) having multiple servers in a single rack.
- b. Mazingo shows (claim 19) wherein at lease one redundant server provides redundancy for at least one primary server (3rd paragraph: a plurality of servers in a server farm providing the same data content or application service) in an analogous art for the purpose of Internet server load balancing.
- c. It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to modify Ayd's functions of rack mounted multiprocessor

computer with Mazingo's functions of using multiple servers to provide the same data content or application service.

- d. The modification would have been obvious because one of ordinary skill in the art would have been motivated to provide redundant/load balancing functions per Mazingo's teaching with a multiple servers per Ayd (Fig. 1 and 4; column 1, lines 26-32; column 1, line 63-column 2, line 25)'s teaching.
- e. Regarding claim 20, Mazingo shows wherein at least two or more of the server systems are connected via load sharing services (2nd paragraph: two or more server systems are used to shared a server load).
- f. Claim 26 is of the same scope as claim 20. It is rejected for the same reasons as for claim 20.

Together Ayd and Mazingo disclosed all limitations of claims 19-20 and 20. Claims 19-20 and 26 are rejected under 35 U.S.C. 103(a).

Response to Arguments

14. Applicant's arguments date 04/26/2007 with respect to pending claims have been considered but are moot in view of the new ground(s) of rejection.

- a. Applicant has amended both applicant's specification and claim language to address the claim rejection under 35 U.S.C. 112, first paragraph in office action dated 10/04/2006. The amended specification changes include additional text descriptions. As applicant intends to support the amended claim language changes, it is inappropriate to add any text description into applicant's original specification unless it is already supported in the original claim language, not amended claim language. Thus all amended specification text addition changes are rejected. Accordingly all amended claim language changes using these additional specification text changes are also rejected.
- b. As per item a above, examiner does not find the proper support for the current claim 1 language changes. However, examiner does consider the amended claim language in light of applicant's original specification and claim language, claim 1 rejection in office action dated 10/04/2006 and applied prior arts, i.e. Ayd. The claim 1 rejection in items a-d of section 11 above is updated to reflect the current claim 1 amendment.
- c. The updated claim rejections in current office do not refer to Sun. Applicant's arguments related to Sun is no longer applicable.
- d. The cited Krum's reference is removed from claim 1 rejection.
- e. Item c in section 8, i.e. the Response to Arguments, in office action 10/04/2006 was incorporated incorrectly. It is not in the current office action.

- f. It is the Examiner's position that Applicant has not submitted claims drawn to limitations, which define the operation and apparatus of Applicant's disclosed invention in manner, which distinguishes over the prior art. As it is Applicant's right to claim as broadly as possible their invention, it is also the Examiner's right to interpret the claim language as broadly as possible. It is the Examiner's position that the detailed functionality that allows for Applicant's invention to overcome the prior art used in the rejection, fails to differentiate in detail how these features are unique (see item a in section 11). As it is well known in the art of housing electronic equipments for all industrial application involving multiple units of similar functions, rack-mounted cabinet is used as admitted by applicant and shown by Ayd for multiple computer system with disk drives. Ayd has shown the possibility of joined CPU subsystem with its disk drive in front and rear and fit a cabinet of certain dimension. It is clear that Applicant must be able to submit claim language to distinguish over the prior arts used in the above rejection sections that discloses distinctive features of Applicant's claimed invention. It is suggested that Applicant compare the original specification and claim language with the cited prior art used in the rejection section above or the Remark section below to draw an amended claim set to further the prosecution.
- g. Failure for Applicant to narrow the definition/scope of the claims and supply arguments commensurate in scope with the claims implies the Applicant's intent to broaden claimed invention. Examiner interprets the claim language in a scope

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parallel to the Applicant in the response. Examiner reiterates the need for the Applicant to more clearly and distinctly define the claimed invention.

Remarks

15. The following pertaining arts are discovered and not used in this office action. Office reserves the right to use these arts in later actions.

- a. Morrison et al. (US 5737185 A) Latch and ejection mechanism for portable hard drive
- b. Obara (US 6772365 B1) Data backup method of using storage area network
- c. Baker et al. (US 6901525 B2) Method and apparatus for managing power consumption on a bus

Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Refer to the enclosed PTO-892 for details.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peling A. Shaw whose telephone number is (571) 272-7968. The examiner can normally be reached on M-F 8:00 - 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William C. Vaughn can be reached on (571) 272-3922. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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SUPERVISORY PATENT EXAMINER